LATEST DEVELOPMENT IN THE MANAGEMENT OF ACID-RELATED DISEASES

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1. Dyspepsia management

For primary care of un-investigated recent onset dyspepsia, there are three main approaches:

1. Refer for upper endoscopy
2. Test for *H. pylori* with non-invasive tests and treat if positive
3. Empirical treatment with prokinetics or proton-pump inhibitors or H_2-antagonists.

Many studies have been performed to look at the results among these groups.

2. Gastric cancer

Incidence and mortality of gastric cancer in most parts of Asia remain high.

1. There is definite link between *H. pylori* infection and gastric cancer. Therefore *H. pylori* carriers are at risk for gastric cancer.
2. If a subject has premalignant lesions (gastric atrophy, intestinal metaplasia), the eradication of *H. pylori* reverses the lesions in about 20-30% of subjects only.
3. For subjects without premalignant lesions, there is no data yet to answer whether eradication of *H. pylori* will reduce the risk of gastric cancer in future.

3. Helicobacter pylori infection

Prevalence

About half of the population in Hong Kong is infected with *Helicobacter pylori*. Although *H. pylori* is associated with a few GI and extra-GI diseases, majority of the carriers will not have any disease manifestation throughout their life.

Diagnosis

It is important to use appropriate tests for diagnosis of *H. pylori* infection.

Invasive tests include:

1. Rapid urease test: including CLO test, home made rapid urease test, PyloriTek test, and others. The first two tests should be read at 24 hours, and the third test can give a quicker diagnosis within one hour.
2. Histology: Antral biopsy sample is needed.
3. Culture: Antral biopsy sample and special transport medium are needed. This is the only test that allows assessment of antibiotics sensitivity of the organism.
4. PCR (polymerase chain reaction): Antral biopsy sample is needed.

Non-invasive tests include:

1. Carbon-13 urea breath test (^{13}C-UBT): Good for both pre- and post-treatment diagnosis. Non-radioactive, good for children and pregnant women. Should be more widely used.
2. Stool antigen test: Easy to perform. Measures antigen, not antibody. Need laboratory support.
3. Blood test — serology test. Based on antibody, mostly ELISA based. Need laboratory support. Need validation of accuracy in Hong Kong. Cannot be used in post-treatment patient.
4. Blood test — whole blood. Based on antibody. Can be performed in front of patient using one drop of blood. Need validation of accuracy in Hong Kong. Cannot be used in post-treatment patient.
5. Urine test. Based on antibody. Near patient test. Need validation of accuracy in Hong Kong. Cannot be used in post-treatment patient.

Choice of tests:

1. Does the patient require an upper endoscopy?
2. First time test or post-treatment? If post-treatment, wait for 4 weeks after stopping all drugs. Breath test, histology and culture are best choices.
3. Blood test or any antibody test must NOT be used for post-treatment.
4. Test results affected by recent (usually 2-4 weeks) intake of proton-pump inhibitor, antibiotics, bismuth compounds.

Treatment

It is important to confirm diagnosis before treatment.

It is also important to use the appropriate treatment regime.

Treatment regime recommended by Asian Pacific Consensus on Management of *H.pylori*.

1. Proton pump inhibitor (standard dose) + clarithromycin 500 mg + amoxicillin 1 gm
2. Proton pump inhibitor (standard dose) + clarithromycin 500 mg + metronidazole 400 mg
3. Ranitidine bismuth citrate (RBC) 400 mg + clarithromycin 500 mg + amoxicillin 1 gm
4. Ranitidine bismuth citrate (RBC) 400 mg + clarithromycin 500 mg +metronidazole 400 mg

ALL TWICE DAILY FOR 7 Days

If clarithromycin not available, switch to amoxicillin and metronidazole. The eradication rate is around 10% lower than with clarithromycin.

Eradication rate affected by antibiotic resistance. In Hong Kong, metronidazole resistance found in 49.4% and clarithromycin resistance found in 10.8%. Dual resistance found in 7%.

Other important points:

1. Non-ulcer dyspepsia — the symptom may not respond to *H.pylori* eradication.
2. Symptoms recur after *Hp* eradication — look for ulcer relapse, reinfection of *Hp*, Gastroesophageal reflux disease (GERD), functional dyspepsia, or irritable bowel syndrome.
3. Not all patients with pain or dyspepsia is due to *Hp* infection.
4. Not all *Hp* carriers will benefit from *Hp* eradication.